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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,326	02/12/2004	Hideaki Yoshida	247982US2DIV	5286

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EXAMINER

TANG, MINH NHUT

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. **10/776,326**Applicant(s) **YOSHIDA ET AL.**

Examiner

Minh N. Tang

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 21-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 21-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 08/862,414.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/12/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of species of Fig. 1 in the reply filed on July 29, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 08/862,414, filed on May 23, 1997.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on February 12, 2004 is considered by the examiner.

Drawings

4. Figures 110-117 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities: in the Preliminary Amendment filed on February 12, 2004, the Serial No. 08/862,144 should be -- 08/862,414 --. Furthermore, Applicants are reminded to update the status of the Application Serial No. 08/862,414 and 10/076,326.

Appropriate correction is required.

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1, 21-24, 26 and 28-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori et al. (U.S.P. 5,673,477) in view of McQuade et al. (U.S.P. 5,416,429).

As to claim 1, Hattori et al. disclose, in Fig. 1, an improved contact probe (1) comprising: a film (3); a plurality of wiring patterns (4a) formed on the film (3), each wiring pattern (4a) having a front end portion (4c) projecting from the film (3) so as to form contact pins (2). Hattori et al. do not disclose a metal layer provided on the film. McQuade et al. disclose, in Figs. 5 and 6, a probe assembly comprising a plurality of wiring patterns (46, 48, 50) formed on a first surface (lower surface) of a film (45); a metal layer (44) provided on a second surface (upper surface) of the film (45) for serving as ground plane (see column 8, lines 5-15). It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide on the upper surface of the film of Hattori et al. with a metal layer as taught by McQuade et al. in order to serve as ground plane.

As to claim 21, Hattori et al. disclose in column 5, line 61, said wiring patterns (4a) comprise nickel.

As to claim 22, Hattori et al. disclose in column 5, lines 64-65, said wiring patterns (4a) are plated with gold.

As to claim 23, Hattori et al. disclose in column 5, line 61, said contact pins (2) comprise nickel.

As to claim 24, Hattori et al. disclose in column 5, lines 64-65, said contact pins (2) are plated with gold.

As to claim 26, McQuade et al. disclose in column 9, line 4, said metal layer (44) comprises copper.

As to claim 28, Hattori et al. disclose in column 4, lines 43-50, said film (3) comprises polyimide resin.

As to claim 29, since both said metal layer (44) and said contact pins (2) are made of metal, therefore a thermal expansion coefficient of said metal layer (44) is the same as a thermal expansion coefficient of said contact pins (2).

10. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori et al. (U.S.P. 5,673,477) in view of McQuade et al. (U.S.P. 5,416,429) as applied to claims 1 and 26 above, and further in view of Subramanian (U.S.P. 5,382,898).

As to claims 25 and 27, Hattori et al. in view of McQuade et al. disclose all the limitations in the claims except for said metal layer comprises nickel or said metal layer comprise copper and being plated with gold. Subramanian discloses, in Figs. 1 and 2, a probe card comprising a ground plane (18) laminating by a thin layer of copper superimposed by successive layers of nickel and gold (see column 2, lines 64-68). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the probe device of Hattori et al. by provide the metal layer made of nickel or copper plating with gold as taught by Subramanian in order to provide a matched impedance transmission line exhibiting a desired characteristic impedance.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


Kamensky et al. 4,972,143 Diaphragm Test Probe.

Logan 4,686,463 Microwave Probe Fixture.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (571) 272-1971. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on (571) 272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Minh N. Tang
Primary Examiner
Art Unit 2829
9/16/04